The effectiveness of psychological interventions with adoptive parents on adopted children and adolescents' outcomes

The Effectiveness of Psychological Interventions with Adoptive Parents on Adopted Children and Adolescents' Outcomes: A Systematic Review

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Abstract

Adopted children and adolescents are at an increased risk of experiencing emotional, behavioural and relational difficulties compared to their non-adopted peers. This systematic review aimed to establish the effectiveness of interventions with adoptive parents on adopted children and adolescents' psychological well-being, behavioural functioning and parent-child relationship. A systematic search was performed adhering to PRISMA, including studies that assessed the effects of interventions with adoptive parents on adopted child and adolescent outcomes. Electronic databases, key journals, grey literature sources, reference and citation lists were searched and published authors in the field were contacted. Nineteen papers describing 15 interventions were included. The findings from this review provide preliminary support for the use of interventions with adoptive parents for improving adopted children's emotional and behavioural outcomes. However, overall, the studies were found to have a high risk of bias and the significant heterogeneity across the studies limits the conclusions that can be drawn. Further research is required to provide conclusive recommendations regarding the effectiveness of interventions with adoptive parents on the outcomes of adopted children.

Keywords

Adoption; Adoptive Parents; Interventions; Adopted children and adolescents; Systematic review

Introduction

Adoption

Adopted children and adolescents are at an increased risk of experiencing a range of difficulties, including psychological, behavioural, and relational and are more likely to be referred to mental health services than their non-adopted peers (Juffer & van Ijzendoorn, 2005; Keyes et al., 2008; van den Dries et al., 2009). Psychological and behavioural difficulties in adopted children and adolescents are associated with a greater risk of adoption disruption, that is, when the adoptee leaves the adoptive home prematurely, which in turn places adoptees at further long-term risk (Biehal et al., 2009; Selwyn et al., 2014).

Adoption is associated with a number of challenges, such as exposure to pre-adoption risk factors, attachment-related difficulties and loss, which may contribute to this increased risk of adjustment difficulties among adoptees. Non-infant children adopted domestically from the child welfare system or internationally are likely to have been exposed to early adversity, including, abuse and/or neglect (DeJong et al., 2016; Selwyn et al., 2014; Zeanah et al., 2009). Experiences of maltreatment and multiple placements prior to adoption are associated with higher levels of adjustment difficulties among adopted children (Colvert et al., 2008; van der Vegt et al., 2009). Research indicates that maltreatment impacts brain development and also increases the likelihood of attachment difficulties (Cyr et al., 2010; Mehta et al., 2009; Twardosz & Lutzker, 2010). Moreover, children who have experienced early adversity may display more complex attachment and trauma-related difficulties not adequately encapsulated by formal classification systems (Tarren-Sweeney, 2013a). Although adoption aims to provide a familial environment that cultivates normal childhood development, adoption is inevitably defined by a sense of loss for the child (Brodzinsky, 2011; Neil, 2012). Thus, adopted children and their adoptive families represent a distinct population at risk for a range of developmental difficulties.

However, these difficulties are not deterministic and many adoptees demonstrate resilience (Juffer & van Ijzendoorn, 2005; van den Dries et al., 2009). Recent adoption research has focused on

identifying the factors associated with individual differences in adjustment outcomes. The results indicate that the adoptive family environment influences the developmental pathways of adopted children and adolescents (Ji et al., 2010). Adoptive family functioning, parent behaviour and parent-child relationships have been shown to mediate the link between pre-adoption adversity and adopted child outcomes (Harwood et al., 2013; Neil, Beek, & Ward, 2013). Thus, interventions that target these factors may improve outcomes for adoptees and their families.

Interventions

Research indicates that the level of preparedness of adoptive parents prior to adoption is associated with adopted children's emotional, behavioural, relational and family functioning (Goldberg & Smith, 2013; Simmel, 2007). Interventions that adequately prepare and inform adoptive parents may improve the outcomes of adopted children and adolescents. Notably, interventions with adoptive parents need to recognise the unique challenges faced by adoptive families, including the implications of exposure to early adversity, attachment difficulties, coping with loss, and helping the adoptee to understand the meaning and implications of adoption (Brodzinsky, 2011; Rushton et al., 2005; Woolgar, 2013).

Although there is an accumulation of research to support the use of interventions with parents in the treatment of emotional and behavioural difficulties in non-adopted children (Furlong et al., 2012; Lundahl, Risser, & Lovejoy, 2006; Thomas & Zimmer-Gembeck, 2007), findings to support the effectiveness of interventions with non-adoptive parents may not be generalisable to the adoptive population, given the additional complexities associated with adoption. Similarly, distinct differences exist between adoption and foster care, including legal, financial, access to supports and children's sense of stability and feelings of closeness (Biehal et al., 2009; Selwyn & Quinton, 2004; Tarren-Sweeney, 2016). Hence, the outcomes of parenting interventions with foster carers may not accurately reflect the results of interventions with adoptive parents (Everson-Hock et al., 2012; Kinsey & Schlosser, 2013).

Previous Reviews

A number of narrative reviews have provided a descriptive overview of interventions for adopted children and their families (O'Dell et al., 2015; Welsh et al., 2007), however, these reviews did not appear to be systematic. Recently, Stock et al. (2016) reviewed the content and evidence-base for a pre-determined subset of adoption support interventions, deemed by the authors to be the most frequently used and highest profile within the field. This was therefore not a thorough systematic review of all available research literature and associated interventions. Although Kerr and Cossar (2014) carried out a systematic review of the evidence for attachment-based interventions with adoptive and foster carers, the review addressed adoptive and foster carers as a single population failing to acknowledge the practical and experiential differences between the two groups. Additionally, Drozd, Bergsund, Hammerstrom, Hansen and Jacobsen (2017) focused on the effects of adoption interventions on caregiver rather than child outcomes. Thus, there remains a gap in the literature detailing the evidence base for interventions with adoptive parents to support adopted children and adolescents.

Rationale and Aims

Given the increased vulnerability associated with adoption, there is a need to assimilate the evidence for adoption-sensitive interventions to optimise the outcomes of adopted children and adolescents. Parenting interventions have consistently demonstrated efficacy at improving child and adolescent outcomes among non-adoptive populations (Barlow et al., 2016; Furlong et al., 2012). Furthermore, research indicates that adoptive parents who are adequately prepared report improved child and family functioning (Goldberg & Smith, 2013; Sar, 2000). The current systematic review aimed to critically appraise the available literature on the effectiveness of psychological interventions with adoptive parents on the emotional, behavioural and relational outcomes of adopted children and adolescents.

Specifically the review aimed:

1. To synthesise the evidence-base for interventions with adoptive parents
2. To establish the effectiveness of interventions with adoptive parents at improving the parent-child relationship, psychological well-being, and behavioural functioning of adopted children and/or adolescents.
3. To determine the characteristics of effective interventions.

Method

The review was carried out in accordance with the Centre for Reviews and Dissemination (CRD, 2009) guidance on Systematic Reviews and The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) Statement (Moher, Liberati, Tetzlaff & Altman, 2009). The review protocol was registered on the PROSPERO database, registration number: CRD42016048577.

Inclusion and Exclusion Criteria

Population. Studies were included if their target population was adoptive parents with an adopted child/adolescent between birth and 18 years. Where studies included both adoptive and foster parents the data for adoptive parents was requested from the authors.

Design. Studies that used an empirical, quantitative evaluative design were included, such as, randomised controlled trials, experimental and quasi-experimental studies, pre- and post- intervention studies, and longitudinal follow-up. Single-case descriptions or evaluations that did not include quantitative analysis were excluded.

Interventions. Studies were included if they evaluated the impact of a psychological intervention with adoptive parents that targeted parental behaviour and/or knowledge on adopted children/adolescents' psychological wellbeing, behavioural functioning and parent-child relationship. Interventions were defined as 'psychological' if they were grounded in a psychological theoretical and methodological framework, including behavioural, cognitive, attachment, or systemic theories. Interventions that targeted adopted children as the primary focus were excluded. Interventions that

promoted physical techniques and coercion, such as holding therapy, were excluded, as recommended by national guidance and researchers within the field (Allen, 2011b; NICE NG26, 2015; Scottish Government, 2015).

Outcome Measures. Studies were included if they used standardised measures of outcomes related to adopted children/adolescents' psychological wellbeing, behavioural functioning or parent-child relationship pre- and post- intervention.

Language. English language studies up until November 2017 were included.

Search strategy

Electronic database search. The following databases were searched 3rd September 2016 and updated 12th November 2017: ASSIA, CINAHL, Embase, ERIC, MEDLINE, PsycINFO, ProQuest Dissertations & Theses Database, Social Services Abstracts. The search used terms for (1) adoption (*adopted infant* or adopted child* or adopted adolescen* or adoptee* or adoptive parent* or adoptive carer* or adoptive famil**) (2) interventions (*intervention or therapy or parenting program* or parent* education or parent* support or parent* training*) within the domains of title, abstract and keyword/subject.

Other sources. The reference lists of included studies, articles citing included studies, selected journals (Adoption & Fostering, Adoption Quarterly) were searched for relevant papers, and three authors in the field were contacted to supplement the electronic database search. In an effort to reduce publication bias, grey literature sources (Action for Children, AdoptionUK, Adoption Support Fund, After Adoption, C4EO, Family Futures, Grey Literature Report, OpenGrey) were searched.

Data Extraction

Following an initial screening of the study titles and abstracts, the authors assessed the full-text of the remaining studies. The first author extracted data from the included studies based on the recommendations of the CRD (2009). Information collected included: the country in which the study was

conducted, sample size, participant characteristics, research design, intervention, outcome measures, statistical analyses and results. If not reported, effect sizes for statistically significant results were calculated using Cohen's *d* formula.

Risk of Bias

Given the expected heterogeneity of the study designs, it was deemed most appropriate to use a standard risk of bias tool across all studies, to assess the extent to which the results of the included studies were 'true', rather than an assessment of methodological quality, as advocated by the Cochrane Handbook (Higgins & Green, 2011). The Cochrane Collaboration's tool for assessing risk of bias (Higgins & Green, 2011) was used to assess the risk of bias within each included study. The risk of bias tool required reviewers to rate each study as "Low risk", "High risk", or "Unclear Risk" under the following seven domains; Random sequence generation (Selection bias), Allocation concealment (Selection bias), Blinding of participants and personnel (Performance bias), Blinding of outcome assessment (Detection bias), Incomplete outcome data (Attrition bias), Selective reporting (Reporting bias) and Other sources of bias (Other bias).

A secondary reviewer independently assessed the risk of bias of a random selection of the included studies (53%), agreement was 91% (Kappa= .85). Discrepancies in judgment were resolved through discussion until a consensus was reached.

Data Synthesis

A qualitative systematic review approach was used to synthesise the results of the review. Given the expected heterogeneity of the interventions and measures used, a meta-analysis was deemed not appropriate.

Results

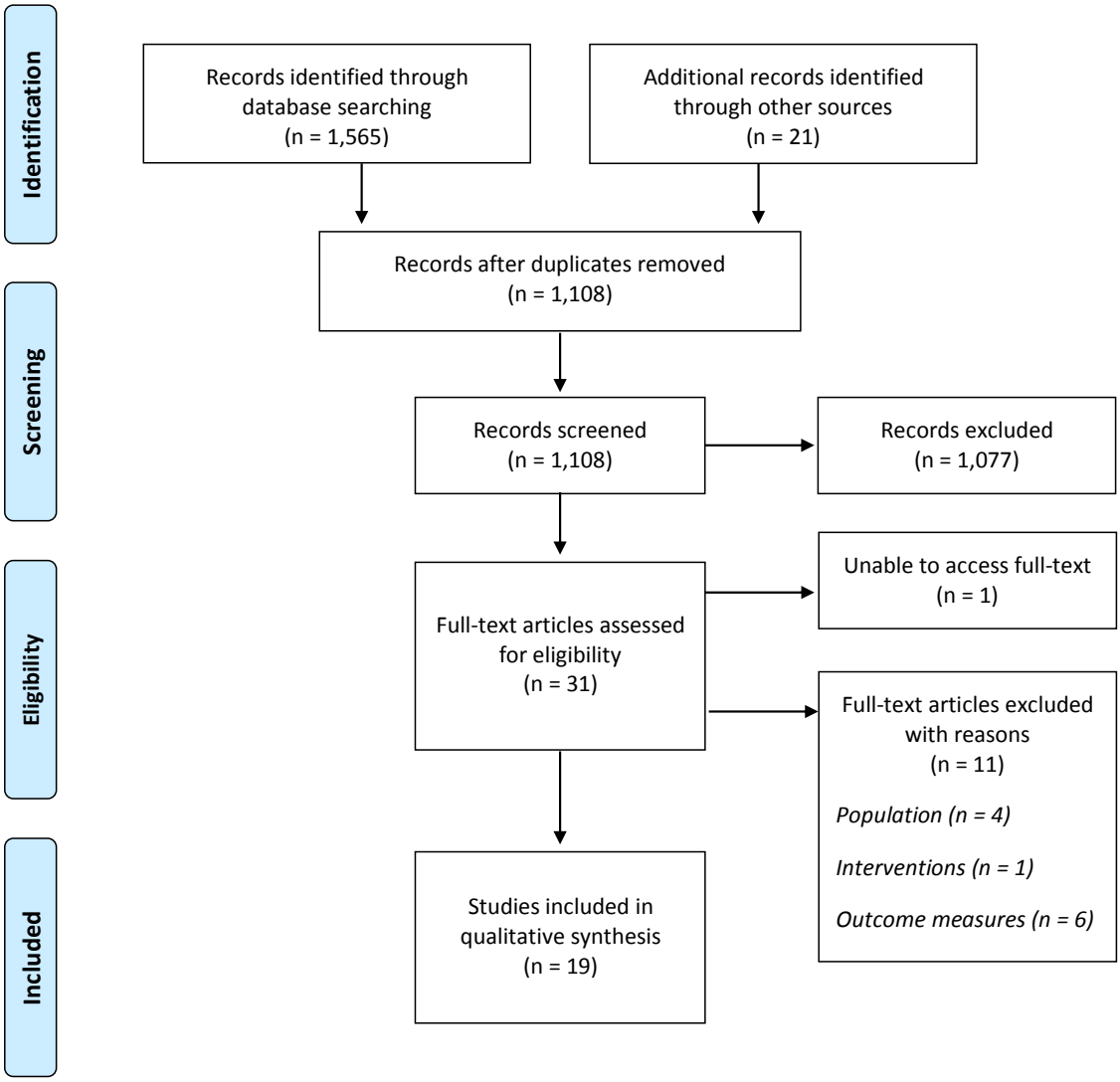

Figure 1. PRISMA Flow Diagram (Moher et al., 2009)

Description of Studies

Results of search. As illustrated in Figure 1, the search yielded 1,108 articles, after duplicates had been removed. Thirty-one articles were identified as being potentially eligible at abstract screening. The full-text was obtained for 30 articles. One full-text was unavailable through the University of Edinburgh, NHS Knowledge Network or British Library and no contact details for the author were

available online. Eleven studies were excluded with reasons, on examination of the full-text. Thus, the searches produced 19 articles reporting on 15 studies.

Excluded studies. One-thousand-and-seventy-seven articles were excluded by screening the titles and abstracts against the inclusion criteria. An additional eleven articles were excluded on review of the full-text as four studies included both adoptive parents and foster carers and the data for adoptive parents only was unavailable, one study assessed interventions that targeted adopted children as the primary focus and six studies did not assess child psychological wellbeing, behavioural functioning or parent-child relationship outcomes using standardised measures.

Included studies. Three articles were found to be follow-ups of the same samples and as such were considered as one study (Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2005; Juffer, Hoksbergen, Riksen-Walraven, & Kohnstamm, 1997; Stams, Juffer, van Ijzendoorn, & Hocksbergen, 2001). Similarly, in two cases the search returned the article and corresponding dissertation on the same sample (Baker, 2012; Baker, Biringen, Meyer-Parsons, & Schneider, 2015; Carnes-Holt, 2010; Carnes-Holt & Bratton, 2014), therefore were treated as one study.

Characteristics of Included Studies

The main characteristics of the included studies are described below and summarised in Table 1.

Design. Three studies used a Randomised Control Trial (RCT) design (Carnes-Holt, 2010; Opiola, 2016; Rushton, Monck, Leese, McCrone, & Sharac, 2010), three studies used a pre/post-intervention design with a "randomly assigned" control group but deviated from RCT implementation (Baker, 2012; Purvis et al., 2015; Razuri et al., 2016), three studies used a pre/post-intervention design with a non-randomised comparison group (Benjamin, 2010; Juffer et al., 2005; Selwyn, del Tufo, & Frazer, 2009), and the remaining six studies used a pre/post-intervention design with no control group.

Population. Participants included adoptive parents, adoptive parent-child dyads or adoptive families. Four studies included parents in the process of adopting, in addition to adoptive parents (Allen

et al., 2014; Benjamin, 2010; Carnes-Holt, 2010; Opiola, 2016). There was considerable variation in sample size between studies, ranging from 12 (Weir et al., 2013) to 304 (Razuri et al., 2016). The distribution of sample size across the studies was skewed, eight studies involved 50 or less participants, five had a sample size between 50 and 100 and two had a sample size of greater than 100 (see Table 1).

There was wide variation in the age of children at baseline. The mean age of children ranged between 6 months and 12.86 years across fourteen studies (Allen et al., 2014; Baker, 2012; Benjamin, 2010; Carnes-Holt, 2010; Colonnesi et al., 2013; Henderson & Sargent, 2005; Juffer et al., 2005; Opiola, 2016; Purvis et al., 2015; Razuri et al., 2016; Selwyn et al., 2009; Selwyn et al., 2016; Weir et al., 2013; Wydra, 2013). There was also considerable variation in the age-range of children at the time of adoption. The mean age at the time of adoption ranged from 10 weeks to 67 months across eight studies (Baker, 2012; Colonnesi et al., 2013; Henderson & Sargent, 2005; Juffer et al., 2005; Purvis et al., 2015; Razuri et al., 2016; Rushton et al., 2010; Selwyn et al., 2016). Similarly, the length of time in the adoptive placement varied across studies. The mean length of time in adoptive placement ranged from 12 to 65 months across six studies (Colonnesi et al., 2013; Henderson & Sargent, 2005; Purvis et al., 2015; Razuri et al., 2016; Rushton et al., 2010; Selwyn et al., 2009). One study controlled for length of time in adoptive placement (Colonnesi et al., 2013). Ten studies reported the type of adoption, foster-care (Benjamin, 2010), international (Colonnesi et al., 2013; Juffer et al., 2005), or a mixed sample of international, domestic or foster-care adoptions (Baker, 2012; Carnes-Holt, 2010; Opiola, 2016; Purvis et al., 2015; Razuri et al., 2016; Weir et al., 2013; Wydra, 2013).

Eleven studies recruited children experiencing emotional, behavioural or attachment-related difficulties (Allen et al., 2014; Baker, 2012; Benjamin, 2010; Carnes-Holt, 2010; Colonnesi et al., 2013; Opiola, 2016; Purvis et al., 2015; Razuri et al., 2016; Rushton et al., 2010; Selwyn et al., 2009; Selwyn et al., 2016). One study recruited children without pre-determined emotional or behavioural problems

(Juffer et al., 2005). The remaining three studies did not specify the presence or absence of child problems.

Interventions. Table 1 presents specific details of the content of each intervention. All of the included studies, with one exception (Rushton et al., 2010), made explicit reference to attachment theory. In addition to attachment theory, eleven of the studies reported drawing upon other psychological theories and research, including social learning, behavioural, trauma, child development, transactional and family systems theories, mind-mindedness research, bio-psycho-social and filial therapy models, and emotional availability framework (see Table 1). Rushton et al. (2010) described using a 'cognitive behavioural approach'.

Broadly, the interventions fell into three categories: Group interventions, parent and parent-child dyad interventions and family interventions.

Eight of the 15 included studies were delivered to parents in a group format (Baker, 2012; Benjamin, 2010; Carnes-Holt, 2010; Henderson & Sargent, 2005; Opiola, 2016; Purvis et al., 2015; Selwyn et al., 2009; Selwyn et al., 2016). Two of these studies evaluated the efficacy of 'Child-Parent Relationship Therapy (CPRT)', one in comparison to a wait-list control group (Carnes-Holt, 2010), and replicated with a 'Treatment as usual' control group (Opiola, 2016). One study compared two parenting group interventions, 'The Benjamin Interactive Parenting Model (BIPM)' and 'The Love and Logic Parenting model (LLP)' against a waitlist control (Benjamin, 2010). One group intervention, 'Emotional Attachment and Emotional Availability (EA2) Tele-Intervention Programme' was delivered online via a Group Video-Conferencing system (Baker, 2012), the remainder were delivered in person. The number of sessions of the group format ranged from 4 days training (Purvis et al., 2015) to 18 weekly sessions (Selwyn et al., 2016). The number of participants per group ranged from 2 (Selwyn et al., 2009) to 14 (Selwyn et al., 2016). Two studies did not specify the number of participants per group (Henderson & Sargent, 2005; Purvis et al., 2015).

Table 1.

Overview of Included Studies

Author (Year) Country	**Population Participants**	**Child Characteristics**	**Design Control**	**Follow up**	**Intervention**	**Outcomes Child Outcome Measure**
Allen, Timmer, & Urquiza, (2014). U.S.A.	Pre-adoptive and adoptive parent-child dyads (*N*=85 dyads)	Age range: 2-8 years (*M*= 4.45 years) Gender: 51% Male	Pre-, Mid- and Post-intervention No control Group	No follow up	Parent-Child Interaction Therapy (PCIT) Duration: 14 to 20 weeks Theoretical Foundation: Social Learning, Behavioural, & Attachment theories	Child Behaviour Checklist (CBCL) Eyberg Child Behaviour Inventory (ECBI)
Baker (2012). U.S.A.	Adoptive parent-child dyads (*N*=15 dyads)	Age range: 23-62 months (*M*=42 months) Gender: 60% Male	Pre- and Post-intervention Randomly assigned delayed-intervention comparison group	No follow up	Emotional Attachment and Emotional Availability (EA2) Tele-Intervention Programme Duration: 6 weeks Theoretical Foundation: Emotional Availability, Attachment, Systems & Transactional theories.	Child Behaviour Checklist (CBCL) Emotional Attachment & Emotional Availability Clinical Screener (EA2-CS) The Attachment Q-Sort (AQS)
Benjamin (2010). U.S.A.	Pre-adoptive and Adoptive parents (*N* =60)	Age range: 5-16 years (*M* =9.28 years) Gender: 32% Male	Pre- and post-intervention Non-randomised 2 interventions and waitlist control group	No follow up	(1) The Benjamin Interactive Parenting Model (BIPM) (2) the Love and Logic Parenting model (LLP) Duration: 7 weeks Theoretical Foundation: (1) Biopsychosocial-based model, & Attachment theory (2) Behavioural-based model	Child Behaviour Checklist (CBCL)
Carnes-Holt (2010). U.S.A.	Pre-adoptive and adoptive parents (*N* =61)	Age range: 2-10 years (*M* =5.7 years) Gender: Not reported	Randomised Control Trial: Pre- and post-intervention Waitlist control group	No follow up	Child-Parent Relationship Therapy (CPRT) Duration: 10 weeks Theoretical Foundation: Child-Centred Play Therapy, Child Development, Attachment theories & Filial Therapy model	Child Behaviour Checklist (CBCL)

Table 1. (continued)

Author (Year) Country	**Population Participants**	**Child Characteristics**	**Design Control**	**Follow up**	**Intervention**	**Outcomes Child Outcome Measure**
Colonnesi, et al. (2013). The Netherlands	Adoptive families (*N*=20)	Age range: 2-5 years (*M*=45.6 months) Gender: 35% Male	Pre- and post-intervention No control group	No follow up	Basic Trust: Attachment-Oriented Intervention Based on Mind-Mindedness in Adoptive Families Duration: Approximately 3 months (8 sessions) Theoretical Foundation: Attachment & Mind-mindedness theories	Strengths and Difficulties Questionnaire (SDQ) Attachment Insecurity Screening Inventory (AISI) The Attachment Q-sort (AQS)
Henderson, & Sargent (2005). U.K.	Adoptive parents (*N* =42)	Age range: 35 – 140 months (*M* =84 months) Gender: 47% Male	Pre-, post-intervention and follow-up No control group	1 year post-intervention	Adapted Incredible Years Basic Parent Programme Duration: 12 weeks Theoretical Foundation: Behavioural, Social Learning, & Attachment theories	Strengths and Difficulties Questionnaire (SDQ)
Juffer, Bakermans-Kranenburg, & van Ijzendoorn (2005). The Netherlands	Adoptive parents (*N* =130) Follow-up: Adoptive parents (*N* =147)	Age range: 6 months (*M* =6 months) Gender: 51% Male	Non-Randomised Control Trial: Pre-intervention at 6 months, post-intervention at 12 months 2 intervention and control groups	7 years: Addition of post-test only control group	(1) Personal book (2) Personal book & video-feedback Duration: 3 months (2) 3 sessions of video feedback Theoretical Foundation: Attachment theory	Strange Situation Procedure (SSP) Follow-up: Child Behaviour Checklist (CBCL)
Opiola (2016). U.S.A.	Pre-adoptive and adoptive parents (*N* = 49)	Age range: 2.5 – 9 years (*M* =5.5 years) Gender: 51% Male	Randomised Control Trial: Pre- and post-intervention Treatment-As-Usual control group	No Follow up	Child-Parent Relationship Therapy (CPRT) Duration: 10 weeks + 2-hour pre-treatment session Theoretical Foundation: Child-Centred Play Therapy, Child Development, Attachment theories & Filial Therapy model	Child Behaviour Checklist (CBCL)

Table 1. (continued)

Author (Year) Country	**Population Participants**	**Child Characteristics**	**Design Control**	**Follow up**	**Intervention**	**Outcomes Child Outcome Measure**
Purvis, et al. (2015). U.S.A.	Adoptive parents (*N* =96)	Age range: 5-12 years (*M* =7.88 years) Gender: 62.5% Male	Pre- and post-intervention (2 weeks before/after) Randomly assigned control group	No Follow up	Trust-Based Relational Intervention (TBRI) Duration: 4 days Theoretical Foundation: Trauma & Attachment theories	Strengths & Difficulties Questionnaire (SDQ) Trauma Symptoms Checklist for Young Children (TSCYC)
Razuri, et al. (2016). U.S.A.	Adoptive parents (*N* =304)	Age range: 5-12 years (*M*=8.15 years) Gender: 50% Male	Pre- (2 weeks prior) and post-intervention (2 weeks after) Randomly assigned control group	No Follow up	Web-based Trust-Based Relational Intervention (TBRI) Duration: Online access to 18 learning modules for 30 days Theoretical Foundation: Trauma & Attachment theories	Strengths & Difficulties Questionnaire (SDQ) Trauma Symptoms Checklist for Young Children (TSCYC)
Rushton, Monck, Leese, McCrone, & Sharac (2010). U.K.	Adoptive parents (*N* =37)	Age range: Not reported (*M*= Not reported) Gender: 46% Male	Randomised Control Trial: Pre-, post-intervention and follow-up 2 intervention and 'service as usual' control group	6 months post-intervention	(1) Cognitive Behavioural Programme (2) Educational Programme Duration: Approximately 12 weeks (10 sessions) Theoretical Foundation: (1) Cognitive Behavioural theory (2) Not specified	Strengths & Difficulties Questionnaire (SDQ) Expression of Feelings Questionnaire (EFQ)
Selwyn, del Tufo, & Frazer (2009). U.K.	Adoptive families (*N* =35)	Age range: Not reported (*M* =7.9 years) Gender: Not reported	Non-randomised Control Trial: Pre-, post- intervention and follow-up Non-randomised control group	5 months post-intervention	"It's a Piece of Cake?" Programme Duration: 6 modules (lasting approximately 5 hours each) Theoretical Foundation: Attachment theory	Strengths & Difficulties Questionnaire (SDQ) Expression of Feelings in Relationships Questionnaire (EFR)

Table 1. (continued)

Author (Year) Country	**Population Participants**	**Child Characteristics**	**Design Control**	**Follow up**	**Intervention**	**Outcomes Child Outcome Measure**
Selwyn, Golding, Alper, Gurney-Smith, & Hewitt (2016). U.K.	Adoptive families (*N* =29)	Age range: 18months – 17 years (*M* =3.57 years) Gender: 51% Male	Pre- and post-intervention No control group	No follow up	Nurturing Attachments Group Work Programme Duration: 18 sessions weekly during term-time Theoretical Foundation: Dyadic Developmental Psychotherapy and Practice (DDP), Neuroscience, Child Development, Trauma, & Attachment theories.	Strengths & Difficulties Questionnaire (SDQ) Assessments Checklists short-form (AC-sf) Child-parent relationship scale short form (CPRS-sf)
Weir, et al. (2013). U.S.A.	Adoptive families (*N* =12)	Age range: 3-12 years (*M* =8.64 years) Gender: 47% Male	Pre- and post-intervention No control group	No follow up	Whole Family Theraplay Duration: 12-15 weekly sessions Theoretical Foundation: Attachment & Family Systems theories	The Youth Outcome Questionnaire 2.01 (Y-OQ) Child Behaviour Checklist (CBCL)
Wydra (2013). U.S.A.	Adoptive families (*N* =51)	Age range: 8-18 years (*M*=12.86 years) Gender: 30% Male	Pre- and post-intervention No control group	No follow up	Adoption-competent family therapy Duration: Up to 6 months. Average = 16 weekly sessions (Minimum = 8 sessions). Theoretical Foundation: Attachment & Family Systems theories	Child Behaviour Checklist (CBCL) Inventory of Parent Peer Attachment Revised for Children (IPPA-R)

Table 1. Overview of Included Studies.

Four studies provided individual interventions to parents, the parent-child dyad or a combination (Allen et al., 2014; Juffer et al., 2005; Razuri et al., 2016; Rushton et al., 2010). Two studies compared two interventions against a control group (Juffer et al., 2005; Rushton et al., 2010). Juffer et al. (2005) compared the provision of a personalised book or a personalised book in conjunction with parent-infant dyad video-feedback, against a control group. Rushton et al. (2010) delivered two home-based parenting interventions, a 'Cognitive Behavioural Programme' and 'Educational Programme' the results of which were combined and compared to a 'service as usual' control group. Razuri et al. (2016) evaluated the efficacy of 'Web-Based Trust Based Relational Intervention (TBRI)', an online version of the group delivered 'Trust-Based Relational Intervention (TBRI)' assessed by Purvis et al. (2015). There was wide variation in the duration of these interventions, ranging from 3 sessions (Juffer et al., 2005), 10 weeks (Rushton et al., 2010) to between 14 to 20 weeks (Allen et al., 2014). The web-based intervention provided adoptive parents with access to 18 online learning modules for 30 days (Razuri et al., 2016).

Three interventions targeted the adoptive family. One intervention alternated sessions with parents-only and observations of adoptive family interactions, over 8 sessions (Colonnesi et al., 2013). Another delivered between 12 to 15 weekly sessions with the whole adoptive family (Weir et al., 2013). The third combined family sessions and individual sessions for the child, with families attending on average 16 sessions (Wydra, 2013).

Outcomes. Outcomes were assessed at baseline and post-intervention in all of the studies. Four out of the 15 included studies assessed outcomes at follow-up (Henderson & Sargent, 2005; Juffer et al., 2005; Rushton et al., 2010; Selwyn et al., 2009). The follow-up period ranged from 5 months (Selwyn et al., 2009) to 7 years (Juffer et al., 2005).

All of the included studies measured child psychological well-being and behavioural functioning using either the Child Behaviour Checklist (CBCL) (Achenbach & Rescorla, 2000) or the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 2001). Five studies used an additional measure to assess

child psychological or behavioural functioning; Trauma Symptoms Checklist for Young Children (TSCYC) (Purvis et al., 2015; Razuri et al., 2016), Youth Outcome Questionnaire 2.01 (Y-OQ) (Weir et al., 2013), Eyberg Child Behaviour Inventory (ECBI) (Allen et al., 2014) and the Assessments Checklists short-form (AC-sf) (Selwyn et al., 2016). Seven out of the 15 studies measured aspects of the parent-child relationship. One study used the Child-Parent Relationship Scale (CPRS-sf) to assess parents' perception of their relationship with their child (Selwyn et al., 2016). Two studies assessed the nature of the carer-child relationship and the child's ability to express emotions and seek affection appropriately (Rushton et al., 2010; Selwyn et al., 2009). Four studies sought to assess aspects of the parent-child attachment relationship using a range of measures; Baker (2012) used the Emotional Attachment and Emotional Availability Clinical Screener (EA2-CS) and Attachment Q-sort (AQS); Colonnesi et al. (2013) used the AQS and the Attachment Insecurity Screening Inventory (AISI); Juffer et al. (2005) used the Strange Situation Procedure and Wydra (2013) used the Inventory of Parent Peer Attachment Revised for Children (IPPA-R).

Risk of Bias in Included Studies

Table 2 provides a summary of the 'Risk of Bias' assessment for the 15 included studies. Overall the results can be considered at medium to high risk of bias, subject to the reporting and available data.

Allocation. The method used to generate and conceal the allocation sequence to interventions was assessed to determine the risk of biased allocation to interventions. Only one study described a random component in the method of sequence generation and made explicit reference to the concealed allocation of participants organised by an independent unit (Rushton et al., 2010). Two studies described a random component in the method of sequence generation but did not report on the strategies used to conceal allocation (Carnes-Holt, 2010; Opiola, 2016). In two studies randomisation was assessed as being compromised and information was not provided on allocation concealment (Benjamin, 2010; Juffer et al.,

2005). Seven studies did not use random sequence generation or conceal allocation, six used a pre- and post- intervention design without a control group (Allen et al., 2014; Colonnesi et al., 2013; Henderson & Sargent, 2005; Selwyn et al., 2016; Weir et al., 2013; Wydra, 2013), one study recruited a control group separately from the intervention group (Selwyn et al., 2009). There was insufficient information regarding the sequence generation process and allocation concealment in three studies (Baker, 2012; Purvis et al., 2015; Razuri et al., 2016).

Blinding. Given the nature of the intervention, it is not possible to blind either facilitators or parents to the type of treatment being implemented or received. Nevertheless, detection bias may be minimised by blinding outcome assessors from knowledge of the received intervention. Twelve studies did not report whether assessors were blinded or not (Allen et al., 2014; Benjamin, 2010; Carnes-Holt, 2010; Colonnesi et al., 2013; Henderson & Sargent, 2005; Purvis et al., 2015; Razuri et al., 2016; Rushton et al., 2010; Selwyn et al., 2009; Selwyn et al., 2016; Weir et al., 2013; Wydra, 2013). Three studies reported that assessors of observational outcomes were blinded however it was not clear whether assessors were blinded when assessing questionnaires (Baker, 2012; Juffer et al., 2005; Opiola, 2016).

Incomplete data. An assessment was made of the amount, nature and handling of incomplete data. Three studies reported that no participants dropped out of the study (Baker, 2012; Benjamin, 2010; Colonnesi et al., 2013). One study reported that there were no dropouts, however, there was a significant amount of missing data (Weir et al., 2013). The results reported across the remaining eleven studies suggested that analyses were performed on completers only, inadequately addressing incomplete data.

Selective reporting. Only one out of the 15 included studies reported the availability of the study protocol and reported all of the pre-specified outcomes (Rushton et al., 2010). Three studies did not adequately report the results to the statistical analyses carried out (Selwyn et al., 2009; Selwyn et al., 2016; Wydra, 2013). One study reported only percentages in results and did not report the results to

follow-up (Henderson & Sargent, 2005). The remaining ten studies were rated as at unclear risk of reporting bias, as the availability of the study protocol was not reported.

Table 2.

Risk of Bias Summary

Key: + = Low risk − = High risk ? = Unclear risk	Random sequence generation. (Selection bias)	Allocation concealment. (Selection bias)	Blinding of participants and personnel. (Performance bias)	Blinding of outcome assessment. (Detection bias)	Incomplete outcome data. (Attrition bias)	Selective reporting. (Reporting bias)	Other sources of bias. (Other bias)
Allen, Timmer, & Urquiza, (2014)	−	−	−	?	−	?	+
Baker et al. (2015); Baker (2012).	?	?	−	?	+	?	?
Benjamin (2010)	−	?	−	?	+	?	−
Carnes-Holt, & Bratton (2014); Carnes-Holt (2010).	+	?	−	?	−	?	+
Colonnesi et al. (2013)	−	−	−	?	+	?	?
Henderson, & Sargent (2005).	−	−	−	?	−	−	−
Juffer et al. (2005); Stams et al. (2001); Juffer et al. (1997).	−	?	−	?	−	?	?
Opiola (2016).	+	?	−	?	−	?	+
Purvis et al. (2015).	?	?	−	?	−	?	?
Razuri et al. (2016).	?	?	−	?	−	?	?
Rushton, Monck, Leese, McCrone, & Sharac (2010).	+	+	−	?	−	+	−
Selwyn, del Tufo, & Frazer (2009).	−	−	−	?	−	−	−
Selwyn, Golding, Alper, Gurney-Smith, & Hewitt (2016).	−	−	−	?	−	−	?
Weir et al. (2013).	−	−	−	?	−	?	?
Wydra (2013)	−	−	−	?	−	−	−

Table 2. Risk of Bias Summary

Other potential sources of bias. Three studies were deemed free of other sources of bias (Allen et al., 2014; Carnes-Holt, 2010; Opiola, 2016). One study reported the development of a programme, such that there was a lack of consistency and fidelity to a single treatment model across participants (Henderson & Sargent, 2005). Similarly, two studies reported limitations with respect to treatment fidelity and adherence to treatment model (Benjamin, 2010; Wydra, 2013). Selwyn et al. (2009) noted that participants may have received additional support outwith the target intervention. Rushton et al. (2010) combined the results of two interventions for analyses against the control group. There was insufficient information to determine whether a risk of bias existed across the remaining seven studies.

Effects of Interventions

Table 3 presents a summary of the *Mean* comparison, relevant outcome measures and effect sizes for statistically significant findings, calculated using Cohen's *d*.

Emotional and behavioural outcomes. All of the included studies measured child psychological well-being and behavioural functioning.

Nine studies evaluated the effectiveness of the intervention on adopted children's psychological and behavioural functioning in comparison to a control group (Baker, 2012; Benjamin, 2010; Carnes-Holt, 2010; Juffer et al., 2005; Opiola, 2016; Purvis et al., 2015; Razuri et al., 2016; Rushton et al., 2010; Selwyn et al., 2009). The results from 6 out of the 9 studies showed a significant effect of intervention (Baker, 2012; Carnes-Holt, 2010; Juffer et al., 2005; Opiola, 2016; Purvis et al., 2015; Razuri et al., 2016). A comparison of *Means* between the intervention and control groups at post-intervention returned varied results across the studies, see Table 3. Purvis et al.'s (2015) evaluation of group format 'Trust Based Relational Intervention (TBRI)' returned mixed effect size results across each of the Strengths and Difficulties Questionnaire (SDQ) and Trauma Symptoms Checklist for Young Children (TSCYC) scales, varying from negligible to moderate effects (see Table 3). While Razuri et al. (2016) reported significant interaction effects for time and group on SDQ and TSCYC scores in their evaluation of 'Web-Based

Trust Based Relational Intervention (TBRI)', a *Means* comparison between the intervention and control groups at post-intervention produced small or negligible effect sizes (see Table 3). Similarly, despite reporting a significant interaction effect for time and group on the Child Behaviour Checklist (CBCL) Total Problems and Externalising Problems subscale, Carnes-Holt (2010) failed to demonstrate a significant difference between the 'Child-Parent Relationship Therapy (CPRT)' intervention group and control group at post-intervention on these scales, with negligible effect sizes (see Table 3). Notably, this may be explained by the two groups' differing *Means* scores at baseline. In contrast, the effect size calculations between the CPRT and treatment-as-usual control group in Opiola's (2016) replication study produced a moderate effect size for CBCL Total Problems (d=0.58). Juffer et al. (2005) reported at 7 years follow-up children in the intervention with video-feedback group showed significantly lower scores on CBCL Internalising subscale than controls, with a moderate effect size (d=-0.68). Baker (2012) reported significant differences between the intervention and control group at post-intervention on the CBCL Total Problems Scale with a large effect size (d=1.69), however, these results should be interpreted cautiously in light of the small sample size (N=15). No significant differences were found between the intervention and control groups in the remaining 3 studies on CBCL (Benjamin, 2010) and SDQ measures (Rushton et al., 2010; Selwyn et al., 2009).

Six out of the fifteen included studies completed a pre- and post- intervention comparison on children's emotional and behavioural outcomes, without a comparison or control group (Allen et al., 2014; Colonnesi et al., 2013; Henderson & Sargent, 2005; Selwyn et al., 2016; Weir et al., 2013; Wydra, 2013). Five of these studies indicated a significant improvement in children's emotional and behavioural outcomes between pre- and post- intervention (Allen et al., 2014; Colonnesi et al., 2013; Henderson & Sargent, 2005; Weir et al., 2013; Wydra, 2013). Given the lack of comparison or control group, these results must be interpreted with caution. Results from Allen et al.'s (2014) study revealed significant improvements on children's psychological well-being and behavioural functioning as measured by the

CBCL and Eyberg Child Behaviour Inventory (ECBI) with moderate to large effect sizes (see Table 3). Similarly, Wydra (2013) reported significant differences between pre- and post- intervention scores on CBCL Total Problems (insufficient information reported to calculate *d*), and Internalising (*d*=1.03) and Externalising (*d*=0.89) subscales, with large effect sizes. Colonnesi et al. (2013) found significant improvements between pre- and post-intervention scores on SDQ Conduct Problems subscale (*d*=0.64), with moderate effect size, but not on any other subscales. A pre- and post- intervention comparison by Weir et al. (2013) revealed significant improvement on the Youth Outcome Questionnaire 2.01 (Y-OQ) Total (insufficient information reported to calculate *d*), however, no significant differences were found for any of the subscales and the CBCL outcomes were not reported. The results for Colonnesi et al. (2013) and Weir et al. (2013) should be interpreted in light of the small sample sizes (*N*=20, *N*=12, respectively). Henderson and Sargent (2005) reported a significant difference between pre- and post-intervention SDQ scores, however, no outcome variables were reported. Selwyn et al.'s (2016) pre- and post- intervention analyses failed to reveal a significant improvement in children's SDQ outcomes.

Relational outcomes. Seven out of the 15 included studies measured aspects of the parent-child relationship.

Four studies evaluated the effectiveness of interventions on parent-child relationship outcome measures against a control group (Baker, 2012; Juffer et al., 2005; Rushton et al., 2010; Selwyn et al., 2009). Results from two of these studies indicated that children's relational functioning in the intervention group improved significantly more than the control group (Baker, 2012; Juffer et al., 2005). Baker (2012) reported significant improvements in children's emotional attachment and attachment behaviours as measured by Emotional Attachment & Emotional Availability Clinical Screener (EA2-CS) (*d*= 2.75), however, no significant differences were found between the intervention and control group on The Attachment Q-Sort (AQS). Furthermore, these results should be interpreted cautiously in light of the small sample size (*N*=15). Juffer et al. (2005) reported significant differences post-intervention between

the intervention with video-feedback and control groups on the classification of disorganised attachment (p=.01, insufficient information reported to calculate d) and scores for disorganisation (p<.01, d=0.62), measured using the Strange Situation Procedure (SSP). The remaining two studies did not find a significant difference between intervention and control groups using the Expression of Feelings in Relationships Questionnaire (EFR) (Rushton et al., 2010; Selwyn et al., 2009).

Three studies completed a pre- and post- intervention comparison on children's relational functioning outcomes (Colonnesi et al., 2013; Selwyn et al., 2016; Wydra, 2013). Colonnesi et al. (2013) evaluated the effectiveness of the family intervention 'Basic Trust: Attachment-Oriented Intervention Based on Mind-Mindedness' on aspects of the parent-child relationship using AQS and Attachment Insecurity Screening Inventory (AISI). Significant improvements were found between pre- and post-intervention scores on AISI disorganised attachment subscale (p<.05, d=0.7), with moderate effect sizes, but not on any other subscales or on AQS. These results should be interpreted with caution, given the lack of control group and small sample size (N=20). A pre- and post- intervention analyses failed to reveal a significant improvement on measures of parent-child relationship in the remaining two studies using the Child-parent relationship scale short form (CPRS-sf) (Selwyn et al., 2016) and Inventory of Parent Peer Attachment Revised for Children (IPPA-R) (Wydra, 2013).

Outcomes Summary. Post-intervention results from eleven studies indicated a significant improvement in adopted children's emotional and behavioural functioning (Allen et al., 2014; Baker, 2012; Carnes-Holt, 2010; Colonnesi et al., 2013; Henderson & Sargent, 2005; Juffer et al., 2005; Opiola, 2016; Purvis et al., 2015; Razuri et al., 2016; Wydra, 2013). Seven of the studies reviewed also measured adopted children's relational functioning, three of which reported benefits to the parent-child relationship (Baker, 2012; Colonnesi et al., 2013; Juffer et al., 2005).

Table 3

Effect Sizes for Child Outcomes

Study	Comparison	Psychological Well-being Outcome Measure	Effect size (Cohen's d)	Behavioural Functioning Outcome Measure	Effect size (Cohen's d)	Parent-Child Relationship Outcome Measure	Effect size (Cohen's d)
Allen, Timmer, & Urquiza, (2014)	Pre- versus Post-intervention	CBCL: Total problems Internalising problems	 *d*=0.64 *d*=0.65	CBCL: Externalising problems	 *d*=0.62		
				ECBI: Intensity Number behaviour problems	 *d*=0.82 *d*=1.1		
Baker (2012); Baker, Biringen, Meyer-Parsons, & Schneider (2015).	Intervention versus Control at Post-intervention	CBCL: Total problems	 *d*=1.69			EA2-CS:	*d*=2.75
						AQS:	Not significant
	Pre- versus Post-intervention	CBCL: Total problems	 *d*=1.70			EA2-CS:	*d*=1.92
Benjamin (2010)	Intervention versus Comparison	CBCL: Total problems	 Not significant				
Carnes-Holt (2010); Carnes-Holt, & Bratton (2014).	Intervention versus Comparison	CBCL: Total problems	 *d*=0.02	CBCL: Externalising problems	 *d*=0.11		
	Pre- versus Post-intervention	CBCL: Total problems	 *d*=0.66	CBCL: Externalising problems	 *d*=0.68		
Colonnesi, et al. (2013).	Pre- versus Post-intervention			SDQ: Conduct problems	 *d*=0.64	AISI: Disorganised Attachment	 *d*=0.7
						AQS:	Not significant
Henderson, & Sargent (2005).	Pre- versus Post-intervention	SDQ:	Insufficient information	SDQ:	Insufficient information		
Juffer, et al. (2005)	Intervention versus Control	CBCL: Internalising problems	 *d*=-0.68			SSP: Disorganisation Score Disorganised Attachment	 *d*=0.62 Insufficient information
	Pre- versus Post-intervention	CBCL: Internalising problems	 Insufficient information			SSP:	Insufficient information

Key: AISI: Attachment Insecurity Screening Inventory; AQS: The Attachment Q-Sort; CBCL: Child Behaviour Checklist; EA2-CS: Emotional Attachment & Emotional Availability Clinical Screener; ECBI: Eyberg Child Behaviour Inventory; SDQ: Strengths and Difficulties Questionnaire

Table 3 (continued)

Study	Comparison	Psychological Well-being Outcome Measure	Effect size (Cohen's d)	Behavioural Functioning Outcome Measure	Effect size (Cohen's d)	Parent-Child Relationship Outcome Measure	Effect size (Cohen's d)
Opiola (2016)	Intervention versus Control	CBCL: Total problems	*d*=0.58				
	Pre- versus Post-intervention	CBCL: Total problems	*d*=0.80				
Purvis, et al. (2015).	Intervention versus Control	SDQ: Total difficulties	*d*=0.19	SDQ: Conduct problems	*d*=0.19		
		Emotional problems	*d*=0.34	Hyperactivity/Inattention	*d*=0.24		
				Prosocial behaviour	*d*=0.23		
		TSCYC: Anxiety	*d*=0.43				
		Depression	*d*=0.53				
		Anger/Aggression	*d*=0.06				
		PTS Arousal	*d*=0.11				
	Pre- versus Post-intervention	SDQ: Total difficulties	*d*=0.30	SDQ: Conduct problems	*d*=0.25		
		Emotional problems	*d*=0.33	Hyperactivity/Inattention	*d*=0.31		
				Prosocial behaviour	*d*=0.67		
		TSCYC: Anxiety	*d*=0.36				
		Depression	*d*=0.32				
		Anger/Aggression	*d*=0.27				
		PTS Arousal	*d*=0.25				
Razuri, et al. (2016).	Intervention versus Control	SDQ: Total difficulties	*d*=0.07	SDQ: Conduct problems	*d*=0.07		
		Emotional problems	*d*=0.07	Hyperactivity/Inattention	*d*=0.33		
		TSCYC: Anger/Aggression	*d*=0.04				
		PTS intrusion	*d*=0.06				
		PTS avoidance	*d*=0.00				
		PTS arousal	*d*=0.16				
		PTS Total	*d*=0.08				
		Dissociation	*d*=0.11				

Key: CBCL: Child Behaviour Checklist; SDQ: Strengths and Difficulties Questionnaire; TSCYC: Trauma Symptoms Checklist for Young Children

Table 3 (continued)

Study	Comparison	Psychological Well-being Outcome Measure	Effect size (Cohen's d)	Behavioural Functioning Outcome Measure	Effect size (Cohen's d)	Parent-Child Relationship Outcome Measure	Effect size (Cohen's d)
Razuri, et al. (2016). (continued)	Pre- versus Post-intervention	SDQ: Total difficulties Emotional problems	 *d*=0.18 *d*=0.14	SDQ: Conduct problems Hyperactivity/Inattention	 *d*=0.22 *d*=0.35		
		TSCYC: Anger/Aggression PTS intrusion PTS avoidance PTS arousal PTS Total Dissociation	 *d*=0.20 *d*=0.15 *d*=0.11 *d*=0.23 *d*=0.16 *d*=0.25				
Rushton, Monck, Leese, McCrone, & Sharac (2010).	Intervention versus Control	SDQ: Total problems	Not significant	SDQ: Total problems	Not significant	EFR:	Not significant
Selwyn, del Tufo, & Frazer (2009).	Intervention versus Control	SDQ: Total problems	Not significant	SDQ: Total problems	Not significant	EFR:	Not significant
Selwyn, Golding, Alper, Gurney-Smith, & Hewitt (2016).	Pre- versus Post-intervention	SDQ: Total problems	Not reported	SDQ: Total problems	Not reported	CPRS-sf:	Not significant
		AC-sf:	Not significant				
Weir, et al. (2013).	Pre- versus Post-intervention	Y-OQ: Total	Insufficient information	CBCL:	Not reported		
		CBCL:	Not reported				
Wydra (2013).	Pre- versus Post-Intervention	CBCL: Internalising problems Total problems	 *d*=1.03 Insufficient information	CBCL: Externalising problems	 *d*=0.89	IPPA-R:	Not significant

Key: AC-sf: Assessments Checklists short-form; CBCL: Child Behaviour Checklist; CPRS-sf: Child-parent relationship scale short form; EFR: Expression of Feelings in Relationships Questionnaire; SDQ: Strengths and Difficulties Questionnaire; IPPA-R: Inventory of Parent Peer Attachment Revised for Children; TSCYC: Trauma Symptoms Checklist for Young Children; Y-OQ: The Youth Outcome Questionnaire 2.01.

Table 3. Effect sizes for Child Outcomes

Characteristics of Effective Interventions.

In light of the risk of bias assessment, those studies least at risk of bias with positive outcomes (Baker, 2012; Carnes-Holt, 2010; Opiola, 2016; Purvis et al., 2015; Razuri et al., 2016), support the use of interventions with adoptive parents and the parent-child dyad, delivered in either a group or individual format, to improve the emotional, behavioural and relational outcomes of adopted children between 2-12 years. Carnes-Holt (2010) and Opiola (2016) provide support for 'Child-Parent Relationship Therapy (CPRT)', a manualised parent intervention delivered over 10 weeks with group and individual components, including the use of video-feedback, which draws upon attachment theory and the filial therapy model. Results from Purvis et al.'s (2015) study suggest that the group-format 4-day parent training 'Trust-Based Relational Intervention (TBRI)' may be effective at improving outcomes for adopted children. While Razuri et al. (2016) provide some support for the Web-based format of 'TBRI' with adoptive parents, which provides online access to 18 learning modules for 30 days. 'TBRI' draws upon trauma and attachment theories, promoting the TBRI "Empowering, Connecting and Correcting" principles and makes use of video-clips throughout the training. Baker (2012) demonstrated improvements in adopted children's outcomes using 'Emotional Attachment and Emotional Availability (EA2) Tele-Intervention Programme' with adoptive families. The group programme, which draws upon emotional availability, attachment, systems and transactional theories, is delivered online over 6 weeks via Video-Conferencing and uses a video-feedback component. Although these interventions differ in format, duration and content, they share some key components. Each of these studies recognised the additional complexities of working with the adoptive population, drawing on recent psychological theory and research in addition to attachment theory. All of these studies used video-clips of parent-child dyads to exemplify and highlight key learning principles to parents. In addition, three of the interventions incorporated the use of video-feedback, that is, video recordings of the participant parent-child dyads, as part of the intervention (Baker, 2012; Carnes-Holt, 2010; Opiola, 2016).

Discussion

Main Findings

The review identified 19 articles, reporting on 15 studies that evaluated the effectiveness of psychological interventions with adoptive parents on the parent-child relationship, psychological well-being, and/or behavioural functioning of adopted children and/or adolescents. Due to the heterogeneity of the studies it was not appropriate to conduct a meta-analysis. Therefore, a qualitative systematic review method was used to synthesise the results. Similar to previous reviews (Kerr & Cossar, 2014), the findings provide preliminary evidence for the effectiveness of interventions with adoptive parents on adopted children and adolescents' outcomes. However, the high risk of bias found across the studies limits the conclusions that can be drawn. Further research is needed to provide conclusive recommendations.

Evidence-base. The 15 studies represent a diverse range of interventions, with wide variations in delivery and duration. Broadly, the interventions were categorised as group interventions, individual parent and parent-child dyad interventions, and family interventions. All of the included studies, with one exception (Rushton et al., 2010), explicitly drew upon attachment theory, either exclusively or in combination with other psychological theory or research. The findings indicate that the evidence base for interventions with adoptive parents is still in its' infancy.

Effectiveness of interventions. Findings from the included studies provide support for interventions with adoptive parents on adopted children's emotional and behavioural functioning, more so than on the parent-child relationship. Although fewer studies included direct measures of relational functioning, these results may also be reflective of the pervasive nature of attachment-related difficulties among adopted children (Feeney, Passmore, & Peterson, 2007; Pace, Zavattini, & D'Alessio, 2012).

Characteristics of effective interventions. The most effective interventions, with the least risk of bias, were conducted in the U.S.A., drew upon recent psychological research and theories in addition

to attachment theory, were delivered in a group or individual format, and incorporated video-clips and/or video-feedback. These findings fit with current clinical guidelines advocating the use of video-feedback programmes and group-based training in the treatment of children adopted from care (NICE NG26, 2015).

Risk of bias. All of the included studies were found to have a high risk of bias. This echoes findings in previous literature (Drozd et al., 2017; Kerr & Cossar, 2014). Due to the lack of randomization and control groups, the majority of included studies were rated at high risk of selection bias. Similarly, the majority of studies were found to be at high risk of attrition bias as studies failed to use intention-to-treat analyses. Due to the nature of the intervention, blinding of participants and personnel is not possible, which resulted in a high risk of performance bias across all studies. The risk of detection bias was deemed unclear across all studies as authors failed to adequately address blinding of outcome assessors. The majority of studies were also rated as at an unclear risk of reporting bias due to the lack of protocol available. The studies were also assessed for other potential risks of bias, which returned mixed results.

Additionally, all of the included studies had a number of methodological flaws. Overall, the sample sizes were relatively small and the high use of parent-report measures across the studies may over-estimate the impact of interventions. Moreover, the measures used may not have accurately captured the difficulties experienced by adopted children, and consequently failed to detect subtle changes in presentation associated with interventions. Seven of the included studies used the Strengths and Difficulties Questionnaire (SDQ) as an outcome measure (Colonnesi et al., 2013; Henderson & Sargent, 2005; Purvis et al., 2015; Razuri et al., 2016; Rushton et al., 2010; Selwyn et al., 2009; Selwyn et al., 2016). The SDQ is described as a 'brief screening questionnaire' to be used alongside other measures in specialist contexts (Youthinmind, 2012), thus the measure may not adequately capture the extent of difficulties or be sensitive to changes in presentation among complex populations. Only two studies used a measure that was developed to evaluate difficulties in children who have a history of exposure to

trauma (Purvis et al., 2015; Razuri et al., 2016). None of the included studies used outcome measures developed specifically for the adopted population. Only one study controlled for length of time in adoptive placement, despite research linking length of time in adoptive placement with improved outcomes for adoptees (Palacios et al., 2009; van Ijzendoorn & Juffer, 2006). Findings from evaluations of interventions may be confounded by the increased time spent as part of the adoptive family.

Strengths of the Review

The review was completed in line with the CRD guidance on systematic reviews (CRD, 2009) and PRISMA (Moher et al., 2009), in an attempt to maximise the quality of the research and reduce possible sources of bias. Moreover, piloting of the search strategy, and the supplementation of the electronic database search results with hand searching, searching of reference, and citation lists, adds to the strength of the review. The cross-checking of potentially eligible articles by a second reviewer reduced the risk of bias of study selection. Attempts were also made to reduce publication bias by contacting authors in the field and by including theses databases, grey literature databases and additional grey literature sources in the search strategy. The use of a standard risk of bias tool, rather than an assessment of methodological quality, allowed for comparisons across a range of study designs on indicators of bias. Furthermore, inter-rater reliability was found to be excellent.

Limitations of the Review

The review is subject to a number of limitations. The review is limited by the use of a qualitative systematic review approach. The heterogeneity between the studies, particularly in terms of design, population and intervention and the methodological flaws across the studies were considered too significant, reducing the meaningfulness of a meta-analysis. While the use of a standard risk of bias tool allowed for comparisons to be drawn between a diverse compilation of studies, the application of a risk of bias tool designed for randomised control trials to uncontrolled evaluation studies resulted in a significant proportion of the studies being rated as high or unclear risk for selection bias. Furthermore, reliance on

the accurate reporting of method and results in the papers produced a notable lack of clarity across a number of the indicators of bias. In addition, non-English language studies were excluded and the grey literature sources were predominantly UK-based websites.

Another limitation of the review is the exclusion of qualitative studies, which may have provided additional insight into the experiences and perceptions of adoptive parents and families who participated in interventions.

Finally, there are a number of limitations associated with quantitatively measuring complex presentations and subsequently, therapeutic change, as it requires the use of reliable and valid measures appropriate to the presenting problem and population. Standardised outcome measures of emotional, behavioural and relational functioning in children may not adequately capture the difficulties experienced by adopted children. A number of authors in the field have questioned the appropriateness of the use of standard classification systems among Looked After Children and those with a history of adversity, disrupted attachment relationships and losses (Dejong, 2010; Tarren-Sweeney, 2013a). Tarren-Sweeney (2013a) postulates that the existing classification systems do not accurately conceptualise the attachment- and trauma-related difficulties experienced by children exposed to early adversity and trauma. Thus, research with adoptive families that is reliant on standard diagnostic classification systems may not accurately capture the difficulties experienced by adopted children and adolescents, particularly those exposed to pre-adoptive risk factors. It is important that researchers, and clinicians alike, recognise the limitations of standard measures for children with complex attachment and trauma-related difficulties. Future research should consider using valid and reliable adoption sensitive measures that account for the additional complexities in presentation such as the Brief Assessment Checklists (BAC-C, BAC-A) developed specifically for use among children and adolescents in foster, kinship, residential and adoptive care (Tarren-Sweeney, 2013b).

Implications for Future Research

Greater care should be taken in future evaluations to reduce the potential risk of bias, in particular, studies should use RCT design, reducing selection bias, and recognise the importance of intention-to-treat analysis, limiting attrition bias. Increased use of observational measures and combined sources of information may provide a deeper understanding of the effectiveness of interventions on children's presentation. The use of an active control group would provide further insight into the effectiveness of specialised interventions and may reduce the risk of performance bias associated with failure to blind participants to the type of intervention being received. Researchers should also control for any potentially confounding factors, such as length of time in adoptive placement and birth relative contact. Furthermore, given the pervasive implications of exposure to pre-adoption risk factors and attachment-related difficulties (Pace et al., 2012; van der Vegt et al., 2009), future research should consider longer follow-ups to capture the extent of improvements. It may also be beneficial for future evaluations of interventions to compare outcomes of adopted children with a representative sample of non-adopted peers, thus, allowing for an increased understanding of the level of continued risk associated with adoption post-intervention.

Future research should recognise the role of adoptive family processes on adoptees' outcomes, beyond the attachment relationship. Adoptive family functioning has been shown to play a greater role in adjustment than pre-adoptive risk factors (Ji et al., 2010; Neil et al., 2013). Moreover, adoptive family relationships are influenced by a number of challenges unique to adoption, such as loss, adoption communicative openness, and post-adoption contact with birth family relatives (Brodzinsky, 2011; Grotevant, Rueter, Von Korff, & Gonzalez, 2011; Neil, 2012). As such, future research should consider evaluating the effectiveness of interventions that integrate supports that promote adoption-related interactions and positive contact experiences for adoptees and their families.

Conclusion

This systematic review examined the evidence base for psychological interventions with

adoptive parents on the psychological well-being, behavioural functioning and parent-child relationship of adopted children and adolescents. The included studies indicate findings that are in favour of some interventions with adoptive parents on improving the emotional and behavioural outcomes of adopted children, and to a lesser extent the parent-child relationship. However, the high risk of bias and significant disparity across the studies prevent any firm conclusions from being drawn. For clinicians working with the adoptive population, this review provides support for specialised psychological interventions with adoptive parents to improve adoptees' outcomes that incorporate the use of video examples of learning aims and video-feedback to allow parents reflect on their own interactions and implement behavioural change. Future research should aim to strengthen the evidence-base, reduce the potential risk of bias and address the methodological weaknesses highlighted in this review. Moreover, emphasis should be placed on the use of adoption-sensitive measures that account for the additional challenges faced by adoptees and their families and accurately capture the complexity and severity of difficulties among this population.

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